

Amendment to the claims:

1. (Previously Presented) In a method of determining the location of a mobile appliance in a wireless communication system having plural base stations and at least one repeater for communicating with the mobile appliance, where the wireless communication system has a network overlay geolocation system operably connected thereto, the improvement of determining whether a signal received from the mobile appliance by the geolocation system has passed through a first repeater, wherein plural signals are received from the mobile appliance by the geolocation system and the step of determining if one of the plural signals has passed through the first repeater is based in part on a difference between the times of arrival of two of the plural signals at the geolocation system.

2. (Original) The method of Claim 1 wherein said first repeater is a tethered repeater.

3. (Cancelled).

4. (Previously Presented) The method of Claim 1 wherein the time difference is approximately equal to a known repeater time delay.

5. (Original) The method of Claim 2 wherein the first repeater attaches a tag to the mobile appliance's signal that passes through the first repeater and the step of determining if one of the plural signals has passed through the first repeater is based in part on the geolocation system operating on the tag.

6. (Previously Presented) The method of Claim 2 including the additional step of determining the location of the mobile appliance based in part on the determination of whether a signal received from the mobile appliance by the geolocation system has passed through the first repeater.

Claims 7-8. (Cancelled).

9. (Original) The method of Claim 1 wherein the first repeater attaches a tag to the mobile appliance's signal that passes through the first repeater and the step of determining if one of the plural signals has passed through the first repeater is based in part on the geolocation system operating on the tag.

10. (Original) The method of Claim 1 including the additional step of determining the location of the mobile appliance based in part on the determination of whether a signal received from the mobile appliance by the geolocation system has passed through the first repeater.

11. (Cancelled).

12. (Previously Presented) A method of determining the location of a mobile appliance in a wireless communication system having plural base stations and at least one repeater for communicating with the mobile appliance, and a mobile positioning center, wherein a plurality of geolocation sensors are co-located with the plural base stations, and wherein the at least one repeater is connected with a communication tether to the base station, and the mobile position center provides mobile information to the geolocation system, the improvement comprising the step of monitoring the communication system with the geolocation system and determining if a target mobile appliance is served by the at least one repeater, wherein the geolocation sensors monitor the tether between the at least one repeater and an antenna feed interface for the mobile appliance's signal.

13. (Previously Presented) A method of determining the location of a mobile appliance in a wireless communication system having plural base stations and at least one repeater for communicating with the mobile appliance, and a mobile positioning center, wherein a plurality of geolocation sensors are co-located with the plural base stations, and wherein the at least one repeater is connected with a communication tether to the base station, and the mobile position center provides mobile information to the geolocation system, the improvement comprising the step of monitoring the communication system with the geolocation system and determining if a target mobile appliance is served by the at least one repeater; and, adjusting the time of arrival of the

mobile appliances signal based on the determination if the mobile appliance is being served by the one of the at least one repeaters.

14. (Original) The method of claim 12 wherein the mobile appliance's signal is a traffic signal.

15. (Original) The method of claim 12 wherein the mobile appliance's signal is a reverse pilot signal.

16. (Previously Presented) The method of Claim 12 wherein the mobile information is control information.

17. (Original) The method of Claim 16 wherein the control information is call set up information or mobile registration process information.

18. (Original) The method of claim 13, further comprising the step of adjusting the time of arrival of the mobile signal at the geolocation sensor with known time delays of the at least one repeater and communication tether.

19. (Original) The method of claim 18, further comprising the step of adjusting the time of arrival of the mobile signal at another of the plural geolocation sensors with known time delays of another one of the at least one repeater and respective communication tether.

20. (Original) The method of claim 13, further comprising the step of accessing with the geolocation sensors the known time delays from a database.

21. (Original) The method of claim 18, wherein the adjusted time of arrivals are used by the geolocation sensors in determining the location of the mobile appliance.

22. (Cancelled)

23. (Currently Amended) ~~The method of Claim 22,~~ A method of determining the location of a mobile appliance in a wireless communication system having plural base stations and at least one repeater station for communicating with the mobile appliance, wherein each of the at least one repeater station are connected to a respective one of the plural base stations with a communication tether, the improvement comprising the steps of detecting signals from a target mobile appliance on the communication tether and using a known delay attributed to the communication tether and the respective at least one repeater station to determine the location of the target mobile appliance,

further comprising detecting signals from the target mobile appliance on another of the at least one repeater station's communication tether and using another known delay attributed to the other repeater station and the respective communication tether to determine the location of the target mobile appliance.

24. (Currently Amended) The method of Claim ~~[[22]]~~ 23, further comprising the steps of locating the respective at least one repeater stations based on mobile information parameters received from a mobile positioning center (MPC) and using the location of the at least one repeater station to determine the location of the target mobile appliance.

25. (Cancelled).

26. (Previously Presented) A method for determining the location of a mobile appliance in a wireless communication system having plural base stations and at least one translating repeater station for communicating with the mobile appliance, wherein the at least one translating repeater station relays a mobile appliance's signal on a different channel than the signal transmitted by the mobile appliance, the improvement comprising relaying from the at least one repeater station information regarding the channel of the mobile appliance's signal to a geolocation system and using the information to detect the mobile appliance's signal and calculate the mobile appliance's location.

27. (Original) The method of claim 26, wherein the channel is defined by a frequency.

28. (Original) The method of claim 26, wherein the channel is defined by a time slot.

29. (Original) The method of claim 26, wherein the channel is defined by a spreading code.

30. (Previously Presented) A method for determining the location of a mobile appliance in a wireless communication system having plural base stations and plural repeaters, wherein the repeaters relay the mobile appliances signal on the same channel as the channel in which the signal was received, and where a mobile positioning center provides mobile information to assist in the location of the mobile appliance, the improvement of using the first signal received from the mobile appliance at each of the plural base stations to determine the location of the mobile appliance and disregarding a second signal received from the mobile appliance at each of the plural base stations when determining the location of the mobile appliance.

31. (Original) The method of claim 30, wherein the channel is defined by a frequency.

32. (Original) The method of claim 30, wherein the channel is defined by a time slot.

33. (Original) The method of claim 30, wherein the channel is defined by a spreading code.

34. (Original) A network overlay geolocation system for locating a mobile in a host wireless communication system, said host wireless communication system having a base station and a repeater station connected by a communication tether, said network overlay geolocation system comprising a geolocation sensor attached to the communication tether between said base station and said repeater station.

35. (Original) A wireless communication system providing communication to and from a mobile appliance comprising:

a base station and a repeater station interconnected by a communication tether;

a mobile positioning center for providing mobile information;

a network overlay geolocation system with a geolocation sensor co-located at the base station;

wherein said tether is connected to said base station at an antenna feed interface, and said geolocation sensor is located on said tether prior to said interface.

36. (Previously Presented) A method of determining the location of a mobile appliance in a wireless communication system having plural base stations and at

least one repeater for communicating with the mobile appliance, where the wireless communication system has a network overlay geolocation system operably connected thereto, comprising the steps of:

determining whether a signal received from the mobile appliance by the geolocation system has passed through a first repeater, wherein plural signals are received from the mobile appliance by the geolocation system; and

determining if one of the plural signals has passed through the first repeater is based in part on a difference between the times of arrival of two of the plural signals at the geolocation system.

37. (Previously Presented) A method of determining the location of a mobile appliance in a wireless communication system having plural base stations and at least one repeater for communicating with the mobile appliance, where the wireless communication system has a network overlay geolocation system operably connected thereto, comprising the steps of:

determining whether a signal received from the mobile appliance by the geolocation system has passed through a first repeater, wherein plural signals are received from the mobile appliance by the geolocation system and said first repeater is a tethered repeater;

determining if one of the plural signals has passed through the first repeater is based in part on a difference between the times of arrival of two of the plural signals at the geolocation system, said time difference being approximately equal to a known repeater time delay;

attaching a tag to the mobile appliance's signal that passes through the first repeater;

determining if one of the plural signals has passed through the first repeater is based in part on the geolocation system operating on the tag; and

determining the location of the mobile appliance based in part on the determination of whether a signal received from the mobile appliance by the geolocation system has passed through the first repeater.